DOCUMENT RESUME

ED 241 752 CE 038 541

AUTHOR McIntyre, William A.; Blankenstein, Ronald G.
TITLE Critical Student Factors in Successful Partnership Training: A Case Study.
PUB DATE May 84
NOTE 13p.
PUB TYPE Reports - Descriptive (141)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *College Programs; Cooperative Planning; *Cooperative Programs; Educational Planning; Electronics; *Electronic Technicians; Employee Attitudes; Employer Attitudes; Institutional Cooperation; Outcomes of Education; Program Effectiveness; *Program Implementation; *Retraining; *School Business Relationship; Student Attitudes; Student Characteristics; Student Motivation; Technical Education; Two Year Colleges; Vocational Education
IDENTIFIERS New Hampshire Vocational Technical College NH; Sanders Associates

ABSTRACT

A program is being conducted by New Hampshire Vocational-Technical College in partnership with Sanders Associates, Inc., a rapidly growing electronics company, to retrain Sanders employees as electronic technicians. The program, requiring 720 hours and taking 13 months to complete, allows students to acquire more than half the credits needed for an associate degree. Students in the program continue to work for Sanders 5 hours a day and attend classes at the college for 4 hours, four evenings a week. The college and company pay careful attention to selection of participants, scheduling, selection of instructors, evaluation of instructors, communications, student motivation, and student supportive services. As a result, the 13-month cycle has been completed twice with a student completion rate of more than 90 percent. Each course cycle has produced about 18 technicians for the Sanders company. The program has been a success as a result of careful planning of student services and consideration for students during implementation. Concern for students is a way of building success into a training program, as this experience shows. (KC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED241752

CRITICAL STUDENT FACTORS IN SUCCESSFUL PARTNERSHIP TRAINING: A CASE STUDY

Prepared by

William A. McIntyre

and

Ronald G. Blankenstein

New Hampshire Vocational-Technical College, Nashua

May, 1984

CE038541

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

W Mc Intyre

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Critical Student Factors in Successful Partnership Training: A Case Study

by
William A. McIntyre and Ronald G. Blankenstein

In partnership training programs a strong commitment to the participating students is vital to program success. Institution and industry consideration for a range of student factors is instrumental to optimize the number of participants who complete the program to reenter the company as productive employees. This article will examine several student factors that are critical to the success of training programs. It is based on a job retraining program called the Electronic Technician Training program which has been successfully implemented twice at the New Hampshire Vocational-Technical College at Nashua for Sanders Associates, Inc. A case study approach will be used to trace the development of student factors and services in the program. Specifically, it will address the recruitment, selection, and testing of participants, scheduling considerations, selecting the trainers, initiating the program, student support services, program evaluation and career pathing, and feedback.

The Partnership

The New Hampshire Vocational-Technical College is a small, two-year institution with a full-time equivalent enrollment of 800 students. It has been on the cutting edge of partnership training with companies in southern New Hampshire for the last eight years, and over 50 partnership training programs have been successfully completed.

Sanders Associates, Inc. is a rapidly growing electronics company with its corporate headquarters in Nashua. The Company has significant operations in defense electronics and computer graphics, and its sales last year approached 600 million dollars.

Southern New Hampshire

The southern part of New Hampshire has been one of the high technology belts in the United States in the last decade. The area has enjoyed a favorable business climate, an available supply of technical personnel, and a geographic proximity to Boston and the Route 128 complex in Massachusetts. During the 1970's the area experienced a tremendous upsurge in electronics and computer manufacturing. The need for trained technicians has continued in an upward spiral.

The Training Program

The Electronic Technician program is a job retraining program which was designed to take nontechnical employees of Sanders and retrain them as Electronic Technicians. It is a 13-month, 720-hour program which was taught at the college. The courses included Technical Mathematics I, and II, Direct Current Fundamentals, Alternating Current Fundamentals, Electronic Devices, Circuits I and II, Digital Networks I and II, and Electronic Troubleshooting.

Participants in the program continued to work full-time. They also attended classes Monday through Thursday for four hours each evening. In such a long-term accelerated program the chances of student burnout were great. It was decided from the inception of the program that student considerations should be carefully addressed to keep motivation high and attrition to an absolute minimum. Recruitment, selection, and testing of participants were the first steps which directly involved the students.

Recruitment of Participants

The screening process was carefully planned and administered to insure that the selected participants had the academic capabilities and the motivation to be able to successfully complete the program (Brown, 1981, p.16). Several steps were taken to recruit students by the Training and Development office at Sanders.

The program was available to Sanders employees who had been employed by the company for one year or longer. A student-centered approach was used to recruit students for the program. The emphasis was on the "You" as the employee, and how "You" could cross-train into a technical career path, be upwardly mobile, and enhance "Your" self-image and prestige. At the same time "You" would contribute valuable technical expertise to the company.

A seven-minute promotional videotape was produced by Sanders to be viewed by prospective students in employee lounges and cafeterias. Two managers from Sanders presented an overview of the program, the entrance requirements, and the procedure to apply for the program. Comments from former and present students were also included.

Selection of Participants

A written application was required from each prospective student, and representatives from Sanders conducted the screening process. The goal was clearly to select the most qualified people who had a strong interest in electronics, proper motivation, and perseverence to complete the program. On the basis of the applications and work records individuals were invited to an interview.

During the interview the program was articulated in detail, as it was crucial that the candidates fully comprehend the nature of the program and how it would affect their lives privately and professionally. The company's expectations of the students were also explained. A problem-solving approach was utilized during the interview to determine the applicants' aptitudes for electronics, personal characteristics, and professional aspirations. The candidates were rated in nine areas as follows:

1. Career ambition- The desire to advance to higher job levels through active efforts to advance oneself. It is important to know whether this self-development is appropriate to the career goal.

2. Technical interest- Active pursuit of information in a given technical area.

3. Ability to learn- Assimilating and applying new, job-related information, taking into consideration rate and complexity.

4. Tenacity/energy- Staying with a plan of action until the desired objective is reached or is no longer reasonably attainable.

5. Listening- The ability to understand, remember, and act on the oral communication or instructions of others.

6. Planning and organizing- Planning a course of action to accomplish a specific goal with proper allocation of resources.

7. Initiative- Self-started action to achieve one's goals. This action involves more effort than what is normally called for to reach the goal.

8. Analysis- Relating and comparing data from different sources, identifying issues, securing relevant information, and identifying relationships.

9. Attention to detail- Accomplishing a task through concern for all areas involved, no matter how small.

(Blankenstein & McIntyre, 1983, p. 4 & 5).

Testing of Participants

From the initial screening of applicants for the program, approximately 40 candidates were invited to enroll in a noncredit pretechnical mathematics course. The course results were used to determine a prospective student's technical aptitude for higher-level mathematics and electronics. It was intended to be a refresher for college algebra which was the first mathematics course in the training program. Student grades were an important component of the screening process. From these scores and the results of the interview, the field was narrowed to 18 students who began the program.

Scheduling Considerations

Careful negotiation of the training program schedule was a major retention consideration (Wallington 1981, p. 7). The problems of scheduling the Electronic Technician program were more complex than they appeared. This long-term, 720-hour program required an assessment of the calendars of the college and Sanders for similarities and differences in observed holidays. Semester breaks for the college and plant shut-downs for Sanders were also considered.

The first decision that was made was in favor of a four-day program that would last for four hours each day. Four hours of

training coupled with five hours of regularly scheduled work was considered a reasonable expectation of students. With this schedule and without any breaks, the program would have concluded in 45 weeks, or 10 months.

Next, it was agreed that all holidays scheduled by the college and by Sanders would be observed. Finally, a few days would be set aside as make-up dates due to instructor illness or other problem, and that the students would benefit from these brief reprieves.

The total duration of the program was then set at 58 weeks, or slightly over 13 months. This represented an additional two and one-half months to the length of the program for the same 720 hours of instruction. Sanders was eager to train employees effectively and efficiently, but a priority was given to attaining an 85 to 90 per cent student completion rate. This goal necessitated a reasonable academic schedule for the participants.

When scheduling a long-term accelerated program such as the Electronic Technician program, consideration must be given to the allocation of ample time for homework, the ability to comprehend and retain condensed subject matter, and to review and reinforce complex technical material. The tenacity of the students must be a shared concern.

Selecting the Trainers

The Electronic Technician program presented a unique challenge in the recruitment and selection of qualified trainers. This program was scheduled during the hours of three to seven o'clock p.m. so that students would be able to finish the evening early enough for personal and/or family obligations and responsibilities. This timeframe also represented the most difficult hours to recruit and hire qualified instructional personnel. Yet, the proper selection of instructors in training is critically important to programmatic success (Abram, et al, 1982, p. 18). The quality of programming could not falter by choosing a trainer who did not meet the following minimum criteria which the college established for the selection:

1. Technical training platform skills commensurate with predetermined instructional objectives.

2. Commitment to the training program design and delivery system.

3. Concern for the personal and career growth in concert with the academic performance of program participants.

4. Interpersonal skills necessary for effective interaction with participants.

Selected trainers became the principle source of encouragement for students during the delivery of the program. Therefore, the highest level of commitment was made by the college and by Sanders to employ individuals who complemented both the sponsors and the participants.

Initiating the Program

Immediately prior to the beginning of the program Sanders hosted a luncheon for the selected participants. There were two major purposes for this event. First, program commitment from the top levels of corporate management down to the first level of operations was demonstrated through various presentations made during the luncheon. Second, important channels of communication were defined and initiated. The selected participants were informed as to who the primary operational spokespersons were for the college and for Sanders. An array of anticipated questions, problems, and concerns were addressed in an effort to alleviate as much student apprehension and/or confusion as possible.

The keynote to initiating this training program was quite clear. The intentions and expectations of the program were highlighted, while the rules, regulations, and pitfalls were played down. The initiation of the program was the time to heighten enthusiasm and motivation... not to stifle it and/or to foster unwarranted trepidation.

Student Support Services

Several new challenges faced the participants as the program continued. As the levels of instruction progressed to more complex electronic subjects and with continuing work loads at the company, the positive personal characteristics of determination, enthusiasm, and apprehension could have suddenly changed to burnout and academic difficulties. These challenges need not have

been faced by the student alone. Many in fact, could be anticipated and the college and Sanders prepared for these potential problems. Elements in the program delivery were anticipated to avoid problems and to enhance our problem handling capabilities.

Program Design. Motivation is cited to be one of the essential ingredients of student retention (Abram, et al, 1982, p.53-54). The design of the program incorporated some creative thinking to keep student motivation high and to curtail possible difficulties. The following methods were used:

1. Credit vs. non-credit programming- It was envisioned that academic credits awarded for training hours could serve as a dynamic student motivator. Thirty-eight semester credits were awarded to those students who successfully completed the Electronic Technician program. This placed the students more than one-half way through the Associate degree program in Industrial Electronics at the college.

2. Cost vs. shared cost vs. no cost- Programming on a no-cost-to-students basis was a great motivator to encourage employees to enter the program. Completing the program, however, necessitated the "shared commitment" concept of the Electronic Technician program (Blankenstein & McIntyre 1983). This was a no-cost-to-students program, but selected participants pledged a significant part of their own time to the program. The students were on company time from 3:00 o'clock to 5:00 o'clock p.m. and were on their own time from 5:00 o'clock to 7:00 o'clock p.m. This concept fostered student responsibility and a strong commitment to their own success in the program.

3. Generation vs. stagnation- Students committed themselves to this long-term training program for a variety of reasons. Upward career mobility was a major factor. Sanders has encouraged upward mobility by providing for the advancement of the participants to positions as Electronic Technicians with commensurate increases in pay upon successful completion of this program, tuition benefits toward the completion of degree requirements, and opportunities to participate in advanced programs. The motivational devices as perceived by the students were raised a level above career and salary upgrading through this degree of company sponsorship. The students were motivated by a sense of personal achievement made possible through their efforts and matched by the efforts of the company.

Program Delivery. Continued efforts to heighten motivation during the delivery of the program have included the following:

1. The instructors were the prime motivators of students. The noninstructional characteristics of empathy, genuineness, and interest in student goals, ambitions, heartaches and frustrations simply cannot be overlooked nor overemphasized in the selection of trainers.

2. Tutorial support was a secondary function of the trainers. Additionally, the college requested and received assistance from Sanders technical personnel to act in the capacity of tutors for selected time periods during the program. The major emphasis was to offer a different instructional perspective. This decision yielded positive outcomes in that the students would benefit academically and were often rejuvenated emotionally due to the interactive processes outside the classroom setting.

3. The availability of prepared counselors were secondary in importance only to academic advising as a critical support service. One or more counselors were cognizant of the training process including the personal and emotional implications as well as the academic progress of the participants.

Program Evaluation and Career Pathing

The Electronic Technician training program was not completed on the last scheduled day of classes. Preparations were in place for a documented program review and evaluation, company-specific product line training, follow-on program support and the placement / reentry process that would benefit the program participants. Specific strategies implemented during and after the program included:

1. Trainer and course evaluations- Trainers were evaluated by the company, the college, and the students. The importance of the students' role in program evaluation was clearly understood, in that, students would not have control of the evaluation process, but neither would they relinquish their important shared role in it.

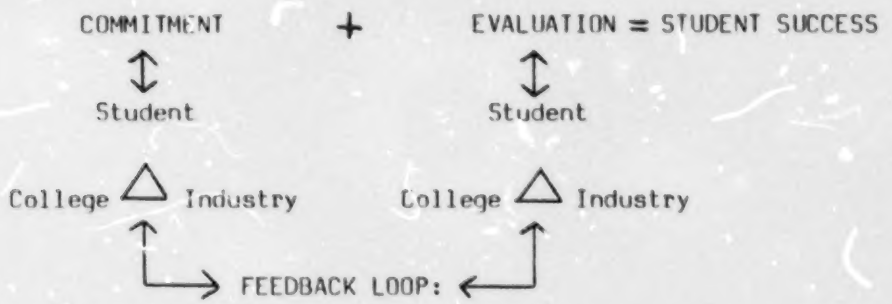
2. Reentry process- Students were absorbed into the manpower pool as technicians for Sanders during the final one-third of the instruction. The benefit to the company was that 18 newly trained technicians need not be absorbed all at one time. The benefit to the company and the students was that a more complete understanding of theory and application was gained when the students had the opportunity to utilize newly aquired skills in their respective work environments.

3. Program review and evaluation- This on-going process was addressed at three levels. First, management of Sanders and the college met bimonthly to review administrative areas of concern. Second, operational personnel also met on a periodic basis before, during, and after each instructional component. Technical support personnel were often present to lend expertise to productive review and its resultant changes. Third, student evaluations were compiled and reviewed as integral components of the evaluative process. Documentation of on-going and final program reports were compiled and distributed to all appropriate program personnel. The resultant changes were implemented during the next instructional component and the processes of review and evaluation continued.

Conclusion: Student Feedback

A central factor in sustaining student motivation is communication (Abram, et al, 1982, p.53-54; Brown, 1981, p.13-14). From the outset of the program formal channels of communication were established between the college, Sanders Associates, the instructors, and the students. Feedback from students was recognized as being very important to the success of the training. It was decided early-on that students communicate concerns about the program or courses with the instructor first, and if a problem could not be resolved to go to the college administrator who was responsible for the program. Also, student concerns related to the company or employment situations were to be raised with a delegated company representative. The college and the company have felt that this arrangement has been instrumental to the program and in fact communication was encouraged and solicited.

To date the 13-month cycle has been completed twice and the retention rate was over 90 per cent. A careful assessment of student factors and communications and feedback have led to this overwhelming success rate. Success in partnership training may be graphically depicted in the following model:



(Blankenstein & McIntyre, 1983, p.14)

The Electronic Technician Training program taught at the New Hampshire Vocational-Technical College for Sanders Associates has been a marked success. This is a result of careful planning of student services and considerations for students during the phases of planning and implementation. This program has strong implications for other partnership training programs. Concerns for students is a way of building success into a training program from the initial planning to program conclusion.

Bibliography

Abram, R., et al. Preparing for High Technology: Programs That Work. Columbus, Ohio: Ohio State Univ., National Center for Research in Vocational Education (RD 229), 1982.

Blankenstein, R.G., and McIntyre, W.A. "Assuring Success in Partnership Training: An Analysis of Critical Student Factors," A paper presented at the National Issues in Higher Education Conference, Kansas State University, "Partnerships for Employee Training: Implications for Business and Industry," Fort Worth, TX, 1983.

Brown, S.M. A Primer for Colleges Who Intend to Provide Training in Industry. Boston: Massachusetts State Commission on Postsecondary Education, 1981 (ERIC Doc. Ed 210 069).

Wallington, C. Training Real World Trainers from the Ivory Tower. Paper presented at the Invitational Conference on Academic Practitioners in Training and Development/Human Resource Development. Williamsburg, VA, Feb., 1981.

RGB/bm/453/83 <33>